

UAS (Drone) Operations

TASK RISK ASSESSMENT v1.1

Last reviewed: 08/12/2021 (Andy Harrison)

Next review due: 08/12/2022

Risk Level = Severity (S) x Likelihood (L) Controlled Risk Level: 1 – 6 = Low Risk (acceptable); 8 – 12 = Moderate Risk (acceptable); 15 – 25 = High Risk (STOP)			Likelihood (L)				
			1 Very Unlikely	2 Unlikely	3 Possible	4 Likely	5 Almost Certain
Severity (S)	1	Insignificant effect on people, work processes or equipment	1	2	3	4	5
	2	Minor injury (non-reportable), minor stoppage, minor damage to property or equipment	2	4	6	8	10
	3	Moderate injury (reportable), moderate stoppage, moderate damage to property or equipment	3	6	9	12	15
	4	Major injury, critical stoppage, critical damage to property or equipment	4	8	12	16	20
	5	Catastrophic injury (fatality), catastrophic stoppage, catastrophic damage to property or equipment	5	10	15	20	25

Task element	Hazard and harmful effect	Likelihood Information	Initial risk level			Control measures	Controlled risk level to employee		
			Severity (S) 1 - 5	Likelihood (L) 1 - 5	Risk level (RL) 1 - 25		Severity (S) 1 - 5	Likelihood (L) 1 - 5	Risk level (RL) 1 - 25
Flight operations	Collision of drone with persons or animals: Potential serious injury or fatality from impact and/or blade strike.	Mechanical / Technical fault or pilot error	5	3	15	<p>Check correct functioning of all equipment using checklists.</p> <p>Ensure public access is restricted, as per guidelines within the Operations Manual.</p> <p>Use cordon for take-off / landing area, if necessary.</p> <p>Ensure pilot is fit to fly and confident in flight plan.</p> <p>Do not fly outside safe operating limits of aircraft.</p> <p>Ensure all crew are aware of flight plan and safety measures.</p> <p>Ensure Observer is briefed with task of ensuring public are aware of dangers and respect clearance areas.</p>	5	1	5

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	Collision of drone with other air traffic: Potential serious injury or fatality, where manned aircraft are involved.	Mechanical / Technical fault or pilot error	5	3	15	Complete pre-flight planning and checklists, as per the Operations Manual. Check correct functioning of all equipment using checklists. Check NOTAMS to ensure no other planned operations are taking place within the flight area. Inform Air Traffic Control if working within controlled airspace. Check for local users of (e.g. drones, model aircraft) on the day of the survey. Ensure Observer is competent and understands the procedures to follow in the event of another aircraft entering the flight area. Do not fly beyond the permitted operating range.	5	1	5

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	Collision of drone with ground traffic: Potential serious injury or fatality, where manned vehicles are involved.	Mechanical / Technical fault or pilot error	5	3	15	Complete pre-flight planning and checklists, as per the Operations Manual. Check correct functioning of all equipment using checklists. Complete on-site survey to identify any ground hazards (e.g. roads and railway lines). Do not fly beyond the permitted operating range. Adhere to flight distance rules as per the Operations Manual.	5	1	5
	Collision of drone with objects or buildings: Potential damage to buildings or important infrastructure (e.g. power lines).	Mechanical / Technical fault or pilot error	4	3	12	Complete pre-flight planning and checklists, as per the Operations Manual. Check correct functioning of all equipment using checklists. Complete on-site survey to identify any ground hazards (e.g. roads and railway lines). Do not fly beyond the permitted operating range. Adhere to flight distance rules as per the Operations Manual.	4	1	4

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Site aspects	Pilot distraction: Distraction of the Pilot-In-Command by members of the public, livestock or animals could result in collision hazards above.	Members of the public, livestock or animals could distract Pilot-In-Command during flight operations.	5	3	15	Observer to ensure public and animals (e.g. livestock) are kept away from Pilot-In-Command during flight operations. Identifiable PPE and signage should be used, as appropriate. In the event of unavoidable encroachment, the flight plan should be stopped immediately until the situation is resolved.	5	1	5
	Slips, trips and falls: Potential to lead to pilot incapacitation during flight, resulting in collision hazards above.	Pilot-In-Command could stumble or fall, resulting in loss of control of aircraft.	5	3	15	Ensure take-off / landing areas and observation areas are free from obstructions. Observer to ensure public and animals (e.g. livestock) are kept away from Pilot-In-Command during flight operations. Ensure Observer is aware of the Failsafe operation of the aircraft to enable safe Return To Home in the event of Pilot-In-Command incapacitation.	5	1	5

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Weather	Inclement weather: Inclement weather (e.g. wind, rain) affecting performance of the aircraft, resulting in collision hazards above.	Failure to plan accordingly and/or changes in weather conditions during survey.	5	3	15	Monitor weather forecasts in advance of survey - only proceed to site if forecasted conditions are within safe operating limits of the aircraft. Assess weather conditions (particularly wind) on-site and only proceed if safe to do so within aircraft and pilot operating limits. Abandon flight if weather conditions change during flight beyond safe operating conditions.	5	1	5
Batteries	Fire and/or battery leakage: Resulting in serious injury.	Incorrectly stored or charged batteries could result in fire or leakage.	4	3	12	Battery care guidelines should be followed, as per the Operations Manual. Charging batteries should not be left unattended. Batteries should be allowed to fully cool before storage and transportation.	4	1	4
Negotiating fences, styles and gates	Slips, trips and falls. Includes potential injury on barbed wire and/or electric fences.	Habitat walkover surveys involve crossing field and river boundaries between riparian land owners.	3	3	9	Consider safest route. Avoid barbed wire and electric fences; using styles, where possible. Record access points for repeat fieldwork.	3	1	3
Accessing fields with livestock	Aggressive behaviour could lead to serious injury.	Risks largely limited to bulls and/or stock with young calves.	5	3	15	Check livestock present before entering fields. If risks are present, identify potential escape routes. Give all livestock a wide berth and avoid bottlenecks.	5	1	5

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EMERGENCY PROCEDURES	EMERGENCY PROCEDURES	EMERGENCY PROCEDURES	5	3	15	Emergency procedures for a number of scenarios are provided within the Operations Manual. These procedures should be read and understood by all crew members in advance of any flight operations.	5	1	5

All BU personnel involved in UAS operations must read and acknowledge the Task Risk Assessment by signing below, before commencing work.

Personnel name	Signature	Date

Remote pilot confirms:

1. They have obtained a Flyer ID (and Operator ID if using a drone for which they are responsible). Please insert details below.
2. They have read, understood and agree to abide by the protocols outlined in the BU UAS Operations Manual.
3. The drone to be used is in good operational order and fit for flight.

Remote pilot name	Flyer ID (and Operator ID, if relevant)	Signature	Date

Remote pilot has been assessed as competent by the nominated faculty representative, who has been trained in accordance with Paragraph 16 of the BU UAS Operations Manual.

Nominated faculty representative name	Signature	Date